

# First record of *Poospiza ornata* (Landbeck, 1865) (Passeriformes, Thraupidae) from Paraguay

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**Abstract.** *Poospiza ornata* (Landbeck, 1865) is a Neotropical passerine bird distributed in xerophytic areas of Argentina. It shows migratory or nomadic behavior in winter and occasionally reaches Uruguay. Here we report the presence of *P. ornata* in Reserva Natural Cañada El Carmen, a Paraguayan protected area in the Dry Chaco. The new data extends the geographic distribution of this species by 347 km northwest from the nearest previously known locality in Formosa Province, Argentina.

**Key words.** Dry Chaco, geographic range extension, Neotropics, bird

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## INTRODUCTION

*Poospiza* Cabanis, 1847 is a genus of Neotropical passerine birds, commonly known as warbling-finches, that are primarily distributed across the Andes and adjacent regions. This distribution suggests that the Andean orogeny played a significant role in their diversification during the late Miocene and Pliocene (Lougheed et al. 2000). Traditionally the genus was classified within the family Emberizidae until recently. Molecular phylogenetic studies, however, have revealed that *Poospiza* is paraphyletic, with species more closely related to certain thraupine lineages (Thraupidae; tanagers) than to other emberizine genera (Klicka et al. 2007; Lougheed et al. 2000). Warbling-finches exhibit a variety of morphological adaptations, particularly in their beak shapes, which are suited to their diverse feeding habits. Warbling-finches traditionally include 12 species (Lougheed et al. 2000), although molecular approaches have found that the genus is polyphyletic and reassigned several species to other genera such as *Poospizopsis*, *Castanozoster*, and *Microspingus* (Burns et al. 2016, 2018). *Poospiza* sensu stricto contains nine species (Burns et al. 2018).

Only one species, *Poospiza nigrorufa* (d'Orbigny & Lafresnaye, 1837), has been recorded in Paraguay. This species occurs in the east of the Oriental Region of the country (Narosky et al. 2022), where it is present from April to October (del Castillo and Clay 2005) and shows a nomadic behavior (Hayes 1995), as recorded for other members of the genus (Cueto et al. 2011; Costa and Rodrigues 2013). During routine monitoring by forest guards in the Cañada El Carmen Natural Reserve (in Spanish: Reserva Natural Cañada El Carmen) in the Dry Chaco, we recorded an individual of *P. ornata*, which represents the first record from Paraguay.

## METHODS

The record was obtained during a weekly survey conducted by park rangers (RM and DD) in the Reserva Natural Cañada El Carmen to estimate the bird diversity in the reserve. This protected area is privately owned and managed by Guyra Paraguay, a non-profit civil society organization dedicated to the conservation and protection of Paraguay's biological diversity. Our survey involved traversing the trails of the reserve and recording all bird species observed visually and aurally. The reserve covers an area of 4,000 ha in the Dry Chaco ecoregion near the border with Bolivia. It encompasses dry forest and alluvial fans of the Pilcomayo River, creating a heterogeneous landscape with the presence of temporal glens scattered in the landscape of clayish soils. Photographic documentation was made using a Canon Rebel T7 camera. The record can be found in eBird, and high-resolution photographs (CR2 format) are available in FigShare (<https://doi.org/10.6084/m9.figshare.28330082>). Data on the distribution of *Poospiza ornata* was obtained from GBIF (2024). The map was created with QGIS v. 3.22.7 (QGIS 2023).



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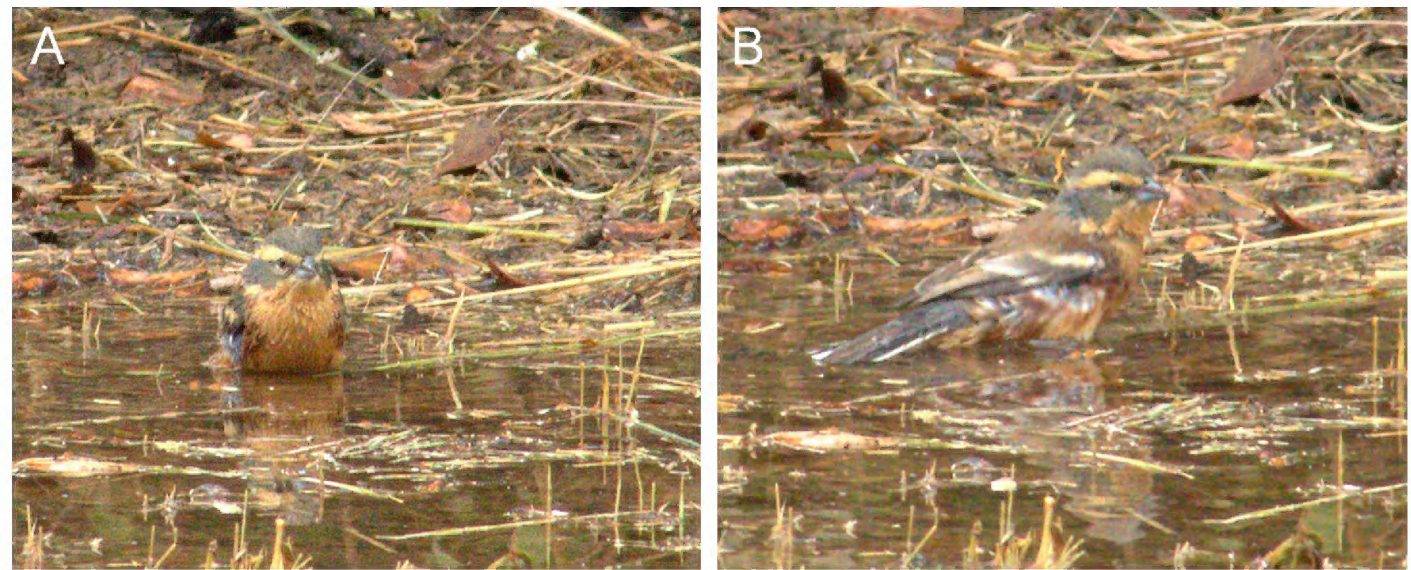
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**Figure 1.** Adult male of *Poospiza ornata* recorded in the Reserva Natural Cañada El Carmen, Paraguay. **A.** Frontal view. **B.** Lateral view.



## RESULTS

Class Aves Linnaeus, 1758

Order Passeriformes Linnaeus, 1758

Family Thraupidae Cabanis, 1847

### *Poospiza ornata* (Landbeck, 1865)

Figures 1, 2

**New record.** PARAGUAY – BOQUERÓN DEPARTMENT • Reserva Natural Cañada El Carmen; 21°37'41"S, 062°20'19"W; 271 m elev.; 21.VI.2023; R. Meza, D. Dávalos obs.; 1 adult spec. The specimen was found at 10:26 h in the mid-morning, taking a bath in a permanent pond adjacent to a forest area, sharing the spot with *Zonotrichia capensis* (Statius Müller, 1776) and *Sicalis flaveola* (Linnaeus, 1776).

**Identification.** Crown, nape, and sides of head grayish brown, with a cinnamon brown supercilium. Middle back dark brown. Wing coverts on the sides mostly gray with brown notes and two white stripes, with the upper more conspicuous. Chin and chest dark brown; throat cinnamon brown. Coloration matches with description by Narosky and Yzurieta (2003).

## DISCUSSION

The Reserva Natural Cañada El Carmen consists of a xerophytic and thorny forest with scattered shrubs and low to medium-height trees. *Poospiza ornata* lives in xeric areas from Monte desert to Andean foothills in woodlands (Cueto et al. 2008), which coincides with the vegetation found in the study area.

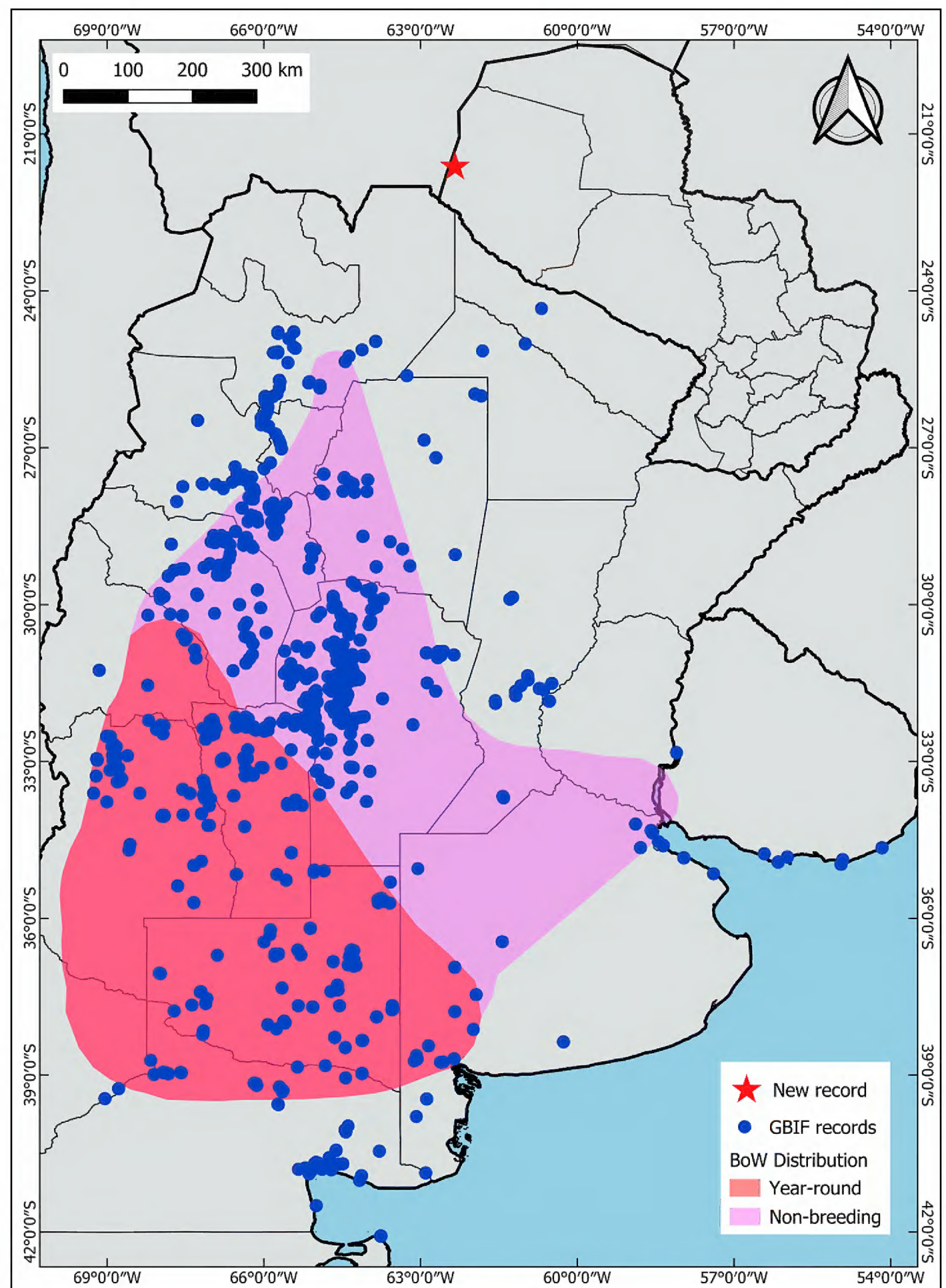
This record represents the first documentation of *P. ornata* for Paraguay, extending the species' known geographic distribution 347 km northwest from the nearest previously known observation which was made on September 2023 (GBIF ID 4424393579) in Formosa, Argentina (Figure 2). With the new record, the number of species of bird known to occur in Paraguay is 707, according to the last compilation reference for the country (Narosky et al. 2022). *Poospiza ornata* was observed again a couple of days after this first sighting, but is not possible to know if this was the same individual or another one.

*Poospiza ornata* primarily occurs in Argentina, where it inhabits Monte Desert landscapes—shrublands and small woodlands up to 1000 m in altitude in a mosaic of open woodland, shrublands, and grasslands (Jaramillo 2011). Grasslands are essential for the species, as it is primarily granivorous (Cueto et al. 2011). The species exhibits short-distance migratory patterns within Argentina depending on the season. During the summer and breeding season it is found from northwestern to southeastern Argentina, while in the winter it migrates further north and east of its summer distribution (Cueto et al. 2011; Sagario et al. 2021). It was found marginally in Uruguay during that season (Mazar Barnett and Pearman 2001).

At present, *P. ornata* should be considered a vagrant in Paraguay, although it remains unclear whether the species is expanding its range. Thus, further research is needed to assess whether this observation is an isolated occurrence or a broader, ongoing range expansion. Changes in land use and land cover may have influenced this range expansion. Habitat alterations, such as forest degradation, fragmentation, or climate-related shifts, could have facilitated the species' movement into Paraguay. Long-term monitoring in Reserva Natural Cañada El Carmen and surrounding areas could provide insights into the species' persistence, habitat preferences, and potential interactions with the local avifauna.

Biological monitoring in protected areas is crucial for maintaining and enhancing biodiversity knowledge helping to detect changes in wildlife populations, habitat conditions, and ecological processes, and improving the information about the diversity, with which it supports the sustainable management of nat-





**Figure 2.** Distribution records of *P. ornata* (blue dots) according to GBIF (<https://doi.org/10.15468/dl.qcp6wk>), Jaramillo (2011), and the new record in Paraguay (red star).

ural resources by offering insights into the effectiveness of conservation measures (Urbano et al. 2024) and opportunities for sustainable tourism (Ortega-Álvarez and Calderón-Parra 2021). Conservation efforts are always hard to maintain, but investing in conservation is investing in the future, ensuring that both current and future generations can enjoy and benefit from a rich and diverse natural world.

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## ADDITIONAL INFORMATION

### Conflict of interest

The authors declare that no competing interests exist.

### Ethical statement

No ethical statement is reported.

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### Author contributions

Conceptualization: LS, PC, HC. Data curation: HC, LS. Investigation: RM, DD, LS, HC. Methodology: RM, DD. Supervision: HC. Visualization: RM. Validation: LS, HC. Writing – original draft: LS, PC. Visualization: RM, PC. Writing – review and editing: RM, DD, HC.

### Data availability

All data that support the findings of this study are available in the main text.

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